CALIFORNIA'S HEALTH

WILTON L. HALVERSON, M.D.
DIRECTOR OF PUBLIC HEALTH

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MENINGOCOCCUS MENINGITIS

HARLIN L. WYNNS, M.D., M.P.H., Chief, Bureau of Epidemiology

During 1943 we have experienced our highest incidence of meningococcus meningitis, there being 811 civilian cases during the first 10 months of the year. Previously 1929 had been the year of greatest incidence with 738 cases during the 12 months.

The outstanding difference between the two epidemic years has been in the percentage of deaths. In 1929 the case fatality rate was 51.6%, while in 1943 (based upon cases and deaths in first 9 months) the rate was only 16.9%. In other words, one of every two cases died in 1929 while in 1943 only one of every six cases died.

TABLE I

Year	Cases No.	Cases Rates*	Deaths No.	Deaths Rates*	Case Fatality Rates California	Case Fatality Rates U. S.
1929	738	13.4	381	6.9	51.6%	49.0%
1930	336	5.9	167	2.9	49.7	49.7
1931	261	4.5	152	2.6	58.2	51.7
1932	166	2.8	86	1.4	51.8	53.2
1933	141	2.3	77	1.3	54.6	50.8
1934	100	1.6	49	0.8	49.0	50.8
1935	275	4.3	124	2.0	45.0	46.3
1936	299	4.6	127	2.0	42.5	41.2
1937	245	3.7	102	1.6	41.6	40.2
1938	113	1.7	42	0.6	37.2	35.0
1939	84	1.2	29	0.4	34.5	43.3
1940	68	1.0	17	0.2	25.0	41.6
1941	87	1.2	22	[illegible]	25.0	34.5
1942	277	3.9	70	1.0	25.2	----
1943	811 (10 mos.)		128 (9 mos.)		16.9 (1st 9 mos.)	----

* Per 100,000 population.

Without a doubt the reduction of the fatality rate is due to chemotherapy and there is at present abundant evidence of the effectiveness of the sulfonamides in treatment. Col. Henry M. Thomas, Jr., reports [1] on the treatment of 1935 cases occurring in the Army in seven southeastern states during the winter of 1942 and 1943. In this group there was a case fatality rate of 3.3%. This is a far cry from the 39% rate for about 6,000 cases occurring during World War I—a rate in itself far below that of the United States as a whole at that time. The cases in this group of 1935 cases received sulfadiazine either by mouth or parentally. Highly toxic cases or those with persistent vomiting received supportive treatment of intravenous salines or dextrose. Only a few of this series of cases received specific antitoxin.

In another army group of 112 cases, only one death occurred.[2] In only two cases was specific serum administered—all others received sulfadiazine. The author recommended maintaining a blood concentration of sulfadiazine at 8 mg. per 100 cubic centimeters, and stated that there was less likelihood of complications due to sulfadiazine if the blood level did not reach higher levels.

In another army group of 68 cases, not a single fatality occurred.[3] The author reporting this series of cases was convinced that sulfadiazine should be routinely administered intravenously at least twice at the beginning of treatment followed by saline and dextrose. None of the cases in this group received specific serum therapy.

It is to be remembered that these are all reports of cases in military groups. These were in individuals in the young adult age groups, in excellent physical condition, and subject to immediate hospitalization on signs of illness. It would be expected that in the civilian population the fatality rate would be somewhat higher owing to the fact that individuals may not seek medical care as early and also that cases would occur in less favorable age groups. While the rate for the state as a whole has been 16.8% this year, some locali-

ties have had much lower rates—Alameda County with 102 cases, had a rate of 7.8%; San Joaquin County with 30 cases had a rate of 3.3%.

TABLE II—CASES AND DEATHS BY MONTHS, 1943*

Month	*Cases*	*Deaths*	*Case Fatality Rate*
January	52	14	26.9%
February	95	17	17.9
March	133	24	18.0
April	109	20	18.3
May	97	16	16.5
June	97	13	13.4
July	54	10	18.5
August	56	8	14.3
September	65	6	9.2
Total	758	128	16.9

* As would be expected, the winter and spring months carry the largest number of cases. This is to be expected since it is during that period that upper respiratory infections are the most prevalent, and individuals tend to remain indoors in poorly ventilated quarters facilitating the spread of the meningococcus and the development of carriers and cases.

TABLE III—CASES AND DEATHS BY AGE GROUPS, 1943*

Age Groups	*Cases*	*Per Cent*	*Deaths*	*Per Cent*	*Case Fatality Rate*
Under 1 year	42	5.6	13	10.1	31.0
1– 4 years	111	14.8	25	19.5	22.5
5– 9 years	62	8.3	6	4.7	9.7
10–14 years	59	7.9	8	6.3	13.6
15–19 years	84	11.2	4	3.1	4.8
20–24 years	64	8.6	3	2.3	4.7
25–29 years	58	7.8	6	4.7	10.3
30–34 years	68	9.1	10	7.8	14.7
35–44 years	102	13.6	18	14.1	17.6
45–54 years	53	7.1	15	11.7	28.3
55–64 years	33	4.4	11	8.6	33.3
65–74 years	10	1.3	8	6.3	80.0
75+ years	2	0.3	1	0.8	50.0
Total	748	100.0	128	100.0	
Unknown	10				
Total	758		128		16.9

* Cases and deaths January-September.

The effectiveness of the sulfonamides is further demonstrated by the difficulty of recovering the meningococcus from the nasopharynx, the blood stream, and the spinal fluid after this drug has been administered. For that reason, sulfonamides have been used in the treatment of carriers and prophylactically for contacts. Evidence indicates that within 24 hours after the administration of relatively small doses of sulfadiazine to persistent carriers, the nasopharynx proved to be negative as determined by nasopharyngeal cultures.

A large scale test was made of the effectiveness in treating carriers in the Army.[4] Two Army camps were selected for this purpose. Both camps comprised about 15,000 troops with about the same duration of Army experience. Both camps had a high incidence of meningitis and carriers. The carrier rate in one was approximately 36%, while in the other it was approximately 30%. In each camp half received prophylactic doses of sulfadiazine and half were untreated as controls. Only two cases of meningitis occurred in the treated group in comparison to 40 cases among the untreated group during a period of observation which was about eight weeks. In one camp, the sulfadiazine dosage was 3 gm. for three days while in the other camp 2 gm. was given for two days. In both instances, the carrier rate dropped rapidly in the treated group while the rate in the untreated group increased considerably. It is felt that this experience definitely demonstrated the effectiveness of sulfadiazine for prophylaxis in such groups.

While it is admitted that such prophylactic treatment may not be as effective or satisfactory among civilian groups, yet such treatment could be given to selected contacts of cases, especially in institutions, hospitals, recreational and labor camps. It would be feasible and an effective addition to our usual control procedures of isolating cases and contacts.

References:

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(2) Meningococcic Infections in Soldiers:
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(3) Meningococcic Infections in an Army Camp:
Lewis Webb Hill; Haseltine Smith Lever, J. A. M. A., Vol. 123, pp. 9-13, September 4, 1943.

(4) The Prophylactic Value of Sulfadiazine in the Control of Meningococcic Meningitis:
Dwight M. Kuhns, et al., J. A. M. A., Vol. 123, pp. 335-339, October 9, 1943.

MORE MARRIAGES IN 1943

The repeal of the law which provided for a three-day wait after application for a marriage license, together with the rationing of gasoline which prevents migration to Nevada and the presence of large numbers of single men in the armed service, have led to a great increase in the numbers of marriages recorded since the repeal of the law.

In July, there were 8,804 marriages in California counties. The number of marriages recorded by months during the first half of the year are as follows:

January	5,902
February	5,683
March	6,328
April	6,198
May	7,229
June	10,559

The following table gives the numbers of marriages performed in California, by counties, during July of 1943:

Alameda	709
Alpine	0
Amador	1
Butte	38

Calaveras	1
Colusa	2
Contra Costa	119
Del Norte	5
El Dorado	3
Fresno	208
Glenn	4
Humboldt	41
Imperial	18
Inyo	7
Kern	133
Kings	33
Lake	5
Lassen	1
Los Angeles	2,915
Madera	14
Marin	66
Mariposa	3
Mendocino	22
Merced	46
Modoc	16
Monterey	197
Napa	35
Nevada	6
Orange	368
Placer	17
Plumas	1
Riverside	217
Sacramento	184
San Benito	12
San Bernardino	222
San Diego	777
San Francisco	1,013
San Joaquin	107
San Luis Obispo	169
San Mateo	93
Santa Barbara	198
Santa Clara	196
Santa Cruz	68
Shasta	23
Siskiyou	6
Solano	70
Sonoma	87
Stanislaus	68
Sutter	10
Tehama	6
Tulare	75
Tuolumne	2
Ventura	89
Yolo	25
Yuba	53

BIRTHS IN CALIFORNIA IN 1942

There were more births registered in California during the calendar year, 1942, than during any single year in the history of the State. A total of 153,120 births was reported. Of these, more than one-fifth, 61,078, occurred in Los Angeles County.

The numbers of births as registered by months is as follows:

January	10,641
February	10,434
March	11,863
April	11,484
May	11,809
June	12,529
July	13,437
August	13,295
September	13,250
October	15,353
November	13,738
December	15,287

It will be noted that the increased numbers of births reported in the latter part of 1942 is a forerunner of the remarkable increase that has occurred during 1943. It is apparent, at this time that the 1943 birth records will greatly exceed those for 1942.

Following are the numbers of births registered in the various counties and cities of this State last year:

ALAMEDA	12,216
Unincorporated areas	371
Oakland	7,855
Alameda	787
Berkeley	1,951
San Leandro	6
Albany	702
Hayward	544
Piedmont	0
ALPINE	2
Unincorporated areas	2
AMADOR	79
Unincorporated areas	79
BUTTE	958
Unincorporated areas	665
Chico	293
CALAVERAS	51
Unincorporated areas	51
COLUSA	133
Unincorporated	133
CONTRA COSTA	2,292
Unincorporated	414
Richmond	918
Martinez	499
Pittsburg	27
El Cerrito	4
Antioch	430
DEL NORTE	73
Unincorporated	73
EL DORADO	125
Unincorporated	125
FRESNO	3,986
Unincorporated areas	1,864
Fresno	2,011
Coalinga	111
GLENN	114
Unincorporated areas	114
HUMBOLDT	885
Unincorporated areas	427
Eureka	458
IMPERIAL	1,543
Unincorporated areas	494
Brawley	544
Calexico	215
El Centro	290
INYO	290
Unincorporated areas	290
KERN	3,637
Unincorporated areas	2,322
Bakersfield	1,315
KINGS	920
Unincorporated areas	387
Hanford	533
LAKE	102
Unincorporated areas	102
LASSEN	385
Unincorporated areas	385
LOS ANGELES	61,078
Los Angeles	29,027
Alhambra	766
Long Beach	5,566
Pasadena	1,895
Pomona	638
Santa Monica	2,177
Glendale	3,677
Monrovia	127
Redondo Beach	102
South Gate	1,135
Torrance	648
Whittier	825
South Pasadena	4
Arcadia	179
Bell	1,123
Beverly Hills	3

LOS ANGELES—Continued	
Burbank	497
Compton	747
Culver City	819
Hawthorne	517
Huntington Park	695
Inglewood	1,143
Lynwood	187
Maywood	703
Montebello	12
Monterey Park	719
San Fernando	391
San Gabriel	32
San Marino	1
Azusa	66
Hermosa Beach	140
Gardena	18
Manhattan Beach	1
Unincorporated areas	6,498
MADERA	599
Unincorporated areas	193
Madera	406
MARIN	639
Unincorporated	263
San Rafael	376
San Anselmo	0
MARIPOSA	23
Unincorporated	23
MENDOCINO	412
Unincorporated	412
MERCED	1,324
Unincorporated	993
Merced	331
MODOC	232
Unincorporated	232
MONO	8
Mono	8
MONTEREY	1,873
Unincorporated	1,239
Monterey	224
Pacific Grove	86
Salinas	324
NAPA	685
Unincorporated areas	234
Napa	451
NEVADA	356
Unincorporated	175
Grass Valley	181
ORANGE	2,819
Unincorporated	665
Santa Ana	658
Anaheim	122
Fullerton	543
Orange	831
PLACER	236
Unincorporated	213
Roseville	23
PLUMAS	190
Unincorporated	190
RIVERSIDE	2,447
Unincorporated	906
Riverside	1,371
Corona	170
SACRAMENTO	4,169
Unincorporated	170
Sacramento	3,999
SAN BENITO	208
Unincorporated	208
SAN BERNARDINO	3,615
Unincorporated	871
Redlands	323
San Bernardino	1,671
Ontario	192
Colton	73
Upland	485
SAN DIEGO	9,015
Unincorporated	975
San Diego	7,043
Coronado	92
National City	903
Chula Vista	2
SAN FRANCISCO	12,588
SAN JOAQUIN	2,747
Unincorporated	1,002
Stockton	1,337
Lodi	408
SAN LUIS OBISPO	954
Unincorporated	478
San Luis Obispo	476
SAN MATEO	1,326
Unincorporated	10
San Mateo	994
Burlingame	1
Daly City	2
Redwood City	103
South San Francisco	164
San Bruno	52
SANTA BARBARA	1,570
Unincorporated	357
Santa Barbara	663
Santa Maria	550
SANTA CLARA	3,933
Unincorporated	1,825
San Jose	1,166
Palo Alto	941
Santa Clara	1
SANTA CRUZ	709
Unincorporated	76
Santa Cruz	273
Watsonville	360
SHASTA	716
Unincorporated	188
Redding	528
SIERRA	19
Unincorporated	19
SISKIYOU	594
Unincorporated	594
SOLANO	1,580
Unincorporated	293
Vallejo	1,287
SONOMA	1,214
Unincorporated	518
Petaluma	295
Santa Rosa	401
STANISLAUS	1,849
Unincorporated	527
Modesto	1,322
SUTTER	430
Unincorporated	430
TEHAMA	279
Unincorporated	279
TRINITY	19
Unincorporated	19
TULARE	2,432
Unincorporated	1,562
Visalia	471
Porterville	329
Tulare	70
TUOLUMNE	157
Unincorporated	157
VENTURA	1,471
Unincorporated	494
Oxnard	473
Santa Paula	128
Ventura	376
YOLO	433
Unincorporated	140
Woodland	293
YUBA	381
Unincorporated	28
Marysville	353

The constant knowledge must be with us that our power, like all power, is good only within the moral order. Therefore when we send forth our men to kill or be killed let us not in moral inertia and laziness of spirit refuse the effort of making sure that their battles are not meaningless and their sacrifices are not in vain. —Walter Lippmann.

A HEARING PROGRAM FOR THE PUBLIC HEALTH NURSE

WARREN H. GARDNER, Ph.D.

The public health nurse is in a strategic position to effect the most adequate readjustment of the physically handicapped child. She assists in his discovery and is responsible for persuading the parents to obtain medical service that restores the child to normal physical efficiency or at least efficiency within limits of the handicap. Likewise, she interprets the child's physical deficiency to the teacher, who arranges a program suited to the nature and degree of the handicap. Hence, it is the duty of the public health nurse and the health department to share with school authorities in the discovery of physically handicapped children, obtain whatever medical attention is necessary so that the school may then make appropriate educational adjustment.

The physically handicapped child who has been most seriously overlooked is the hard of hearing. The nature of the defect is such that it is often not known to the child or parent and not suspected by educational and medical supervisors. The writer is acquainted with numerous children who were adjudged of low intelligence, and several who were committed to the school for the feeble-minded, who were later found to have handicapping hearing deficiencies but normal or above average intelligence. Numerous problem children have been routinely mishandled, without discovery of their hearing handicaps. One reason for this misunderstanding was failure to study the whole child. Another one was that information on hearing deficiencies had not been generally available to the medical and educational profession. This condition has rapidly changed as modern methods of hearing conservation, detecting and treating hearing defects and retraining the hard of hearing, were developed.

The American Society for the Hard of Hearing is largely responsible for proving that hearing deficiencies in school children is one of the most important public health problems. Since its founding in 1919, it has instigated scientific investigations which produced audiometers that permit mass testing of school children. Discovery and subsequent study of these children's problems have been facilitated by utilizing the amplification derived from the radio tube. Thus, intimate study of hearing by the audiometer today is somewhat similar to the earlier use of the ophthalmoscope to observe conditions of the eye.

Testing of school children by audiometry has progressed steadily through the earnest education of school and medical officials by the American Society for the Hard of Hearing. Officially introduced in 1924, the audiometer was used to test the hearing of 180,000 children in 1928, according to a report of the chairman of the Children's Committee of the Society. In 1933, 45 cities in 22 States reported tests of 491,321 children. In 1939-1940, 780 towns and 110 counties in 36 States and Hawaii reported tests of 3,173,079 children. Since that report, compulsory tests have been legislated in Indiana and Washington and extensive programs have been initiated in other States which have raised the total tests annually to over 4,000,000 children in over 1,000 cities.

Hearing Deficiencies Common

Extensive testing has produced sufficient evidence to prove beyond any doubt that hearing deficiencies are present in a substantial portion of the school population. Officials who deny the presence of hearing-handicapped children in their school systems merely do not have the proper information. The most recent report of the Children's Committee showed that in 36 States 4.9 per cent of the school population (unselected groups) were deficient on the basis of two group audiometer tests with failure at 9 db. The writer found in Oregon that 4.4 per cent of 66,060 unselected pupils in 30 counties were deficient on the basis of failure on two group tests and a third pure tone or pitch audiometer test. These figures are consistent with those found by the writer in surveys in Iowa and Indiana.

It is consistently found that 1 per cent to 1½ per cent of school children have one noticeably handicapped ear. For example in Indiana the writer found 599 such children among 59,950 tested. In some communities of Oregon the incidence was over 2 per cent. It is interesting to note that many of these cases were not known to the children or parents, and that in demonstrating the loss to the latter, it was found that many parents had a similar condition in one ear. Surveys by the Lip Reading Department of the National Education Association show that the percentage of total enrollment of school children who receive lip reading in individual cities was an average of 1.7 per cent and a median of 1 per cent. In Oregon, the criterion for special education established by the State Department of Education is an average loss of 20 per cent (25db)* in the better ear. On this basis, 406 out of 62,641 unselected population or .6½ of 1 per cent (range .003 to .01) were found under standard. This criterion is probably more rigid than that used in the cities mentioned above where the lip reading is given on the basis of need as indicated by school achievement. However, assuming that 1 per cent of school children need special education, 300,000 should be receiving this service today.

* Pure tone audiometer test.

Evidence that should convince the most skeptical is now available to prove that prompt medical treatment can restore hearing to normal or eliminate the cause of continuing impairment. Likewise, it is observed that neglect of hearing defects and ear conditions permits increasing and probably permanent impairment. United States Public Health and National Research Council reports show that:

1. Out of 10,000 children, 44 every year will acquire handicapping deafness.

2. Twenty-five to 30 per cent of ears that have slight losses will acquire marked losses in five years.

3. Five per cent of normal ears acquire marked high tone losses and 2 per cent of normal ears acquire marked loss for speech sounds in five years.

Treatment Important

In Oregon, where a complete hearing conservation program is now in its fourth year under auspices of the Division of Maternal and Child Health of the Oregon State Board of Health, it has been possible to compare the results of children who went to physicians with those who did not. Among the children who went to physicians were 58 per cent who improved their hearing significantly compared to 28 per cent who improved but did not go to physicians. The hearing of 34 per cent remains the same who went to physicians, compared to 52 per cent who did not. It is most important to note that 8 per cent of those who saw physicians were worse compared to 20 per cent who did not go to physicians. In other words, twice as many improved who went to physicians as those who didn't, and two and one-half times as many got worse who neglected medical attention as those who received it.

The value of medical treatment of the ear is being demonstrated in scientific investigations at university hospitals such as Johns Hopkins. There it has been reported that middle ear disease, or otitis media, which is present in many deficient cases, is definitely correctible if given prompt medical treatment. It is also reported that so-called old-age or high-tone deafness begins early in the lives of school children and that certain pathologies responsible for this may be eliminated and thereby prevent further progress in many of the cases.

The Nurse and Hearing Conservation

What can the public health nurse do to discover and assist children who have deficiencies in hearing? The American Society for the Hard of Hearing and the American Academy of Ophthalmology and Otolaryngology are agreed on the fundamental principles of hearing conservation. The following steps are necessary in order to carry on a complete program of hearing conservation.

1. Hearing tests for all children by scientific methods. The group or phonograph audiometer enables a qualified technician to test as many as 500 older children a day. Although it has definite limitations, in that it does not detect all children with hearing deficiencies, especially in the high-tone region, the phonograph audiometer will permit discovery of more children than the educational and public health staffs of large school populations can conveniently handle within a calendar year. Wherever it is suitable to the time and training of the staff, and without sacrificing mass testing, the pure tone or octave audiometer should be used in order to detect the hearing losses of children who are not ordinarily detected by the phonograph method. When the phonograph audiometer is used, the failures in the first test should be retested immediately, and later given a third, pure tone audiometer test. No referral to a physician should be made on the results of the phonograph test. However, in lieu of the pure tone test, failure in a third individual test on the phonograph audiometer, together with positive history, may be used for the basis of referral to a physician.

2. Adequate follow-up to include otological examination and treatment is imperative. In larger cities, the parents receive first information and instructions about the hearing deficiencies of their children from an otologist at a school or public health clinic. In smaller communities and rural areas, the local otologist or county health officer is asked to advise concerning the disposition of each case. Eventually all cases will receive appropriate treatment by their family otologists. It is extremely important that a retest of all deficient cases be given a year later in order to measure improvement or decline in hearing.

It is important that the public health nurse persist in the follow-up of the deficient cases. It saves time by inviting all parents of these children to school where more detailed explanation of the hearing program can be given and a greater impression is made upon the parent. Those who do not come to school will be followed up in the routine family visits.

3. School adjustment of the handicapped child is imperative in order to correct or prevent personality and achievement failures. The nurse, teacher and principal should discuss the specific problem of each child and make arrangements to assist him in accordance with his needs. Notations and instructions should be left with the child's permanent record in order to forewarn his future teachers. Special assistance should be given according to the defect, such as special seating, lip reading, voice and speech instruction, remedial reading or tutoring in specific subjects. Group or indi-

vidual hearing aids not only ease instruction problems but, with adequate coaching, quicken development of speech and language. Let it be stated here that the belief that a hearing aid or lip reading instruction injures hearing or decreases the power to hear should be relegated to the past alongside superstition and witchcraft. Amplification of speech sounds through a hearing aid trains one to use residual hearing which otherwise would never be known to exist. And lip reading permits reading speech on the lips that is not heard by ear.

A high school student with handicapping hearing should be registered with the vocational division of the State Department of Education and given counsel regarding future training and occupation. Deans of boys and girls in high schools have surprisingly meager information on social, emotional and vocational problems of hard of hearing high school pupils. These students will return deep gratitude to the public health nurse who interprets their problems to the educational staff.

4. Although it is only of indirect concern to the public health nurse, it is the opinion of leading otological and hard of hearing societies that there should be full-time directors of work for the hard of hearing on the staffs of both the State Department of Education and the State Department of Health. State-wide supervision of public health problems of the hard of hearing and their social, medical and scholastic readjustments will thus be more likely to be consummated.

5. Training courses in methods of lip reading should be given in teacher training colleges. Courses in hearing conservation, including administration of hearing tests, causes of deafness, etc., should be given in public health nursing classes. Thus a complete understanding of hearing problems of children will eventually be had by all persons in the educational and public health departments.

6. Education of the public, teachers and parents is an important phase of conservation of hearing. Holding the regard of the community for health protection, the public health nurse should dramatically present the proofs of the needs and importance of prompt medical attention.

Specific Nursing Opportunities

Some of the more specific contributions that a public health nurse should make to her community can be begun at once.

She should obtain adequate training in administration and interpretation of hearing tests. It is most important that she be familiar with standardized testing procedures.

She must pursue the follow-up of defective cases to completion of medical and beginning of educational adjustments. Hearing tests alone mean nothing unless adjustments are effected.

She can be ever alert to the possibility that a physical defect may be responsible for educational or social deviations rather than intelligence. The whole child must be studied.

She must be ever alert to the presence of hearing defects among preschool children. When making a home call, a casual remark by the parent or question by the nurse may uncover a serious case whose future may be directed into one of happiness by prompt medical attention. Much preventive work can be done before a child enters school.

On admitting a child who has been absent with earache, the nurse should ask if a physician has treated him. If not, urgent attention should be given to this matter. If the child has had a contagious disease, careful watch should be made for complications about the ear.

Hearing conservation rightly is becoming an important phase of public health supervision. Three state departments of health have employed consultants in hearing under their divisions of maternal and child health (Oregon in 1940, Michigan in 1942 and California in 1943). The medical profession is urging that more state departments adopt this supervisory work. Medical treatment administered promptly is now definitely proved to be effective in restoring hearing of children. Conservation of hearing is successful directly in proportion to the amount of time spent on discovering and obtaining treatment of hearing defects.

The public health nurse who discovers the hard of hearing child and speeds him toward medical and educational adjustments will contribute largely to the economic welfare and emotional happiness of many future citizens.—Public Health Nursing, September, 1943.

VITAL STATISTICS RATES IN THE UNITED STATES

The United States Bureau of the Census has just issued a publication entitled "Vital Statistics Rates in the United States—1900-1940." The volume contains more than one thousand pages and is a valuable reference material on all vital statistics rates during the past four decades.

It is believed that every health officer and vital statistician in California should have a copy of this publication for reference purposes. The book is available from the Superintendent of Documents, Washington, D. C., at a cost of $1.75.

EMERGENCY MATERNITY AND INFANT CARE

The Emergency Maternity and Infant Care program is now operating or is in the process of being established in all but three counties of the State—Shasta, Alpine and Mono. In Shasta County the program can not be put into operation because of the lack of satisfactory hospital facilities. There are no hospitals in Alpine or Mono Counties and plans will be worked out to provide care elsewhere for patients in these counties. Thirty-seven health officers are administering the program in local health jurisdictions.

Two hundred and seven hospitals are now cooperating in the program. Seven county hospitals have opened their facilities to private physicians so as to make available adequate hospital facilities for patients under this program. During October, 1,781 wives and infants of enlisted men were accepted under this program and $231,716.16 was encumbered for care of these patients. The average cost per case, based on these figures, is $130.

Congress, when appropriating additional funds for this program in September, limited eligibility to dependents of service men in the four lowest pay grades. Previously, enlisted men's families in the three upper pay grades were eligible on the basis of financial need.

INFANTILE PARALYSIS HIGH IN SEPTEMBER

September brought the greatest number of infantile paralysis cases that have been reported during any single month of this year. There were 618 cases reported during this period, which brought the total to 2,014 reported cases since January 1st. This is a more extensive outbreak than that of 1930, which heretofore was the second largest infantile paralysis epidemic ever to have occurred in the State. During the first two weeks of October, however, the incidence of the disease has fallen off greatly. About 75 cases were reported during each of these weeks.

During the month, many field investigations were made, assistance was rendered to physicians in establishing diagnoses and demonstrations were provided in the application of the hot-pack treatment. County medical society meetings were attended where addresses were given on the differential diagnosis of poliomyelitis and the Kenny method of treatment.

HIGHEST TUBERCULOSIS DEATH RATES IN MOTHER LODE DISTRICT

The State Bureau of Tuberculosis has about completed a statistical survey of tuberculosis mortality in the various counties of California. With the assistance of the Bureau of Vital Statistics, data have been provided by which deaths are allocated according to place of residence, as well as by place of death. This makes it possible to compute truly comparable county death statistics. The crude data are not dependable for the reason that certain counties have combined sanatoria and State hospitals within their boundaries and large numbers of nonresident tuberculosis deaths occur in these institutions. Certain other counties also have many deaths in transients;—individuals who have been in this State for less than one year.

The study now being undertaken indicates that the highest tuberculosis death rates are found in the gold mining counties of Tuolumne, Calaveras, Amador and Nevada. They are also high in Sacramento and San Joaquin counties, both of which are important centers for casual laborers and the silicotuberculous migrate to these counties in considerable numbers. The next most heavily infected group of counties, according to the statistical data now being studied are the southern counties of San Bernardino, Riverside and Imperial, with their high Mexican populations. San Francisco's rate is made high because of the heavy incidence of tuberculosis among Chinese residents and Mendocino with its high Indian death rate is one of the more heavily infected counties. Generally, the northern and north central counties of California have the lowest tuberculosis death rates of any counties in the State.

RESULTS OF BLOOD TESTS

During June 20,087 premarital blood tests were made in laboratories throughout the State. Of these, 344, or 1.71 per cent, proved positive. Out of 15,081 prenatal blood tests performed during the same month, 269, or 1.79 per cent, were positive. Since September of 1939 when the law that requires premarital examinations became effective, nearly 495,000 blood tests have been performed in laboratories throughout the State. Of these, 7,962, or 1.61 per cent, proved positive. Since September of 1939, when the premarital blood test law became effective, nearly 545,000 prenatal blood tests have been performed throughout the State. Of these, 8,432, or 1.55 per cent, were positive.

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